

ABSTRACT OF THE DISCLOSURE

5 The present invention, generally speaking, provides a hierarchy of
configuration storage. The highest level of the hierarchy is an active configuration
store; the lowest level is an off-chip configuration store; in between are one or more
levels of configuration stores. Every configuration is promoted from the lowest
off-chip level, through each level, up to the highest active level. Each ascending
level of the hierarchy has a decreasing latency time required to promote a
configuration to the next higher level of the hierarchy, and a decreasing amount of
available storage. This separation into levels allows the amount of available storage
to be adjusted depending on the inherent latency of the level's storage mechanism,
where a longer latency requires a larger cache. This in turn allows the total required
storage for a given performance level to be minimized.